

engineering graduates to a civilian school for one year to round out their education. I think those schools were MIT, Cornell, University of Iowa, and maybe Berkeley, I'm not sure. But since MIT was top of the heap that's where I wanted to go, and that's where I was able to go. There were two of us there. Charlie Keller was the other one. He eventually, when we left the Army after World War II, started his own construction firm in New Orleans and was very successful and eventually became head of AGC, the contractors' organization in the United States.

Q: The Association of General Contractors?

A: Yes. AGC.

Q: Did most engineer officers get degrees in civil engineering?

A: No. Some of them in other branches--in Iowa you always took up hydraulics and soils mechanics--hydraulics, mostly.

Q: I see. Why did you decide to take civil engineering, then?

A: Well, mostly because I wanted to go to MIT.

Q: [laughter] Okay.

A: Which is a tougher school, academically, than West Point.

Q: Yes. So, then, in 1933 you graduated from MIT, and you were assigned to Pittsburgh?

A: Engineer District, yes.

Q: What were your responsibilities at Pittsburgh, and do you recall what branch of the office you were involved with?

A: The District Engineer was Colonel [Wilhelm D.] Styer, then Major Styer, whose family history is very interesting. He had brothers who became admirals in the Navy, as he became general in the Army. The idea in those days, when a new officer came to the District, you didn't stay in the

District office, doing administration and all that. You went out and got your feet dirty. And I was assigned as an engineer officer under a civilian by the name of Don Keeler, who was in charge of the building at Montgomery Locks down at Beaver, Pennsylvania, and I stayed down there quite a long time. I became involved in standing under a steam hammer driving piles, and working in a form, inspecting the placement of concrete, all the dirty foot stuff, so that we would learn what construction really was. One winter I even spent on one of the dams on the Ohio River, lifting gates. We had those wooden gates that you lifted in sections. I forget the name of them now, but it was an across-the-board, intense training in what was construction. Subsequent to that we were starting the Tygart Dam, and I was made engineer officer in charge of the construction of Tygart Dam, where I stayed for about two years. Charlie Wagner was the chief of construction under me. I had a laboratory and a little organization there, supervising the Frederick Snare Corporation, which had the bid for, I think, \$6 million to build that dam. Goodness knows what it'd cost today. But, it was the first concrete dam the Corps built east of the Mississippi, and I stayed there until Lieutenant Fowlkes, Benny Fowlkes, relieved me, and I was sent to Emsworth Dam, a navigation dam at Emsworth, Pennsylvania, which was starting out just like the one at Montgomery. I was in charge of construction of that until I left the District in 1936.

Q: By that time you had been promoted to first lieutenant.

A: Yes.

Q: On January 1, '34, according to records. Did you get involved in the '36 or '37 floods?

A: Yes, sir.

Q: Have you any recollection of your experience with those floods?

A: Especially the '36 flood. Not the '37 flood, but the '36 flood. I was called from, I think I was at Emsworth at the time, and we became a flood team, the whole District did, and all of our efforts were

devoted to trying to secure our projects, but also to assist civilians and to evacuate pigs and chickens and all that sort of thing. I spent two or three nights on Neville Island watching it get washed away by this horrendous flood. It was a great experience to see 15-, 20-ton pieces of ice bob up in the air 15 or 20 feet as they got crushed against things; made you appreciate the power of water. I surely became a devotee of flood control.

Q: Let me turn our attention to the '37 flood.

A: I'd been married and sent to Fort Belvoir to go through the Engineer school, and school started, I think, in September. That flood I believe was either January or February, and the whole group of officers were sent down to the middle Ohio. I was sent to Cincinnati and spent a lot of my time in Louisville going up and down the river, again, rescuing people, pigs, and chickens and making ready for a visit by Mr. [Harry] Hopkins, who was coming down to see the flood. He got as far as Cairo but not to my area. We did stand on the floodwalls at Cairo and again witnessed the power of water.

Q: Let's go back for a moment to when you were a resident engineer at Tygart Dam. Do you recall any particular problems with the Frederick Snare Corporation?

A: Well, you see, this company had bid the whole job, and there was a lot of engineering data available. We had drilled the site out; there were corings; and the makeup of the foundation, which was largely sandstone and shale in lenses, was known. A dam must be founded on very substantial material, and frequently during the course of the construction it was necessary to excavate more of the rock than the original plans called for in order to assure that the foundation was correct. And this, sometimes, caused dissension and arguments, and, of course, I was responsible for saying take it out or leave it. And there were arguments and claims were made, which were settled long after I left the job or the District.

Q: At Tygart you had to work with some fairly interesting people, and I wonder whether you

recollect them. How about Ben Fowlkes?

A: Benny Fowlkes succeeded me there. Very fine officer and a very gentle person.

Q: Charles Wagner?

A: Charlie Wagner. I think he was one of the greatest construction guys I've ever met. So fond of him that when I became assistant chief engineer of Civil Works I discovered to my joy that he was in charge of Chief Joseph Dam out in Washington, and subsequent to that when I came to Disney I got Charlie to come with me to Disney. And he was in charge of construction under me in the Reedy Creek Improvement District at Walt Disney World.

Q: F.E. Barrett?

A: Yes. He and I were very close. He was in my wedding party, as was Charlie. I sort of lost track of him after I left, and I don't know whether he's still alive or not.

Q: Don D. Rait?

A: Yes, I remember him but I can't place him exactly.

Q: Tygart was a PWA-funded dam. Did you have much contact with the PWA people?

A: No. Oh, I assume there were lots of rules and regulations that we had to abide by, you know, putting more people to work than were required, and that sort of stuff.

Q: Okay. Turning just to the District in general, let me throw out a few more names. You already mentioned Bull Styer.

A: Yes.

Q: What is your recollection of him?

A: A tough cookie! He was District Engineer. And he ran that District, and he knew what his job was, and he was very, very strict on maintaining proper use of funds and assuring that the image of the District was top drawer. He was a good District

Engineer, very popular in Pittsburgh.

Q: W.E.R. Covell?

A: Covell followed Styer while I was still there, and he was an entirely different type than Styer. One of the things he said about my marrying my wife--who was from Grafton, West Virginia--he said, "She's a wonderful girl, but it's a hell of a place to go for Christmas." [laughter]

Q: Charles Wellon?

A: A great engineer. Just a great engineer! He was chief of the Engineering Division. Calm, sort of phlegmatic type, knew his stuff, never got upset, a man I was proud to know.

Q: Jack Dodds?

A: Yes, I remember Jack Dodds, and he went in the Army during the war, too, I think. Nice guy. Competent.

Q: You mentioned some projects that you worked on. Let me just, for the record, be sure that there may not have been some other ones. Do you recall Crooked Creek? Were you involved in the Crooked Creek project?

A: No, but during the '36 flood the first lock and dam above Pittsburgh on the Allegheny washed out an abutment. I was put on that job to resurrect that abutment--and it involved placing an awful lot of very heavy rock where the flood had taken out the land where the abutment was sitting, and we had to reestablish the dam's capability to do its job, but that was a navigation dam.

Q: How about the Mahoning and Conemaugh projects?

A: No, I had nothing to do with those.

Q: Did you ever get involved in preparation of any 308 studies or reports in the Pittsburgh District?

A: One I remember most was the canal from Lake Erie to the Ohio River which, I don't know how many times, had been studied, but it had many supporters. It was a favorite project of the people in Ohio to

connect Lake Erie with the Ohio River, but nothing ever happened with it.

Q: But, you did get involved with it?

A: Oh, yes, a little bit.

Q: Okay. Well, I've got two dates, maybe you can help me out here. I have September '36 that you entered Engineer school, and then in your biography I have July '37. I'm not certain which is correct--can you recall when you entered the Engineer school?

A: Well, I was married on the 21st of July 1936, and of course took leave for the honeymoon, and reported into Fort Belvoir in 1936.

Q: Yes, I think that works out right. September '36. Then you graduated in July '37.

A: Yes.

Q: What was the value of your experience at the Engineer school? Did you think you got a worthwhile education?

A: It's a rounding out process--no matter what your work had been in a District, and not too many officers had District experience, I mean in the Corps, at my grade. But, it was a rounding out experience for all of us. I hadn't had any military experience except that time at Fort DuPont, and it brought you up in studies and theory of the responsibilities of, let us say, a major or lieutenant colonel. In other words, you studied the broader aspects of handling battalions and so on and so forth, but also, very deep engineering studies, too. Civil works oriented.

Q: Did you make any acquaintances there with people who you maintained friendships with later on?

A: Oh, yes. Bill Ely was one that was in my class. Oh, if I had the picture I could tell you more of them, but--I was a new bridegroom!

Q: After you graduated from the Engineer school in July of 1937 you became an assistant professor of military science and tactics at Ohio State